



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,967	03/25/2004	Takahiro Niwa	N&H 446	7073
23474	7590	12/02/2005	EXAMINER	
FLYNN THIEL BOUTELL & TANIS, P.C. 2026 RAMBLING ROAD KALAMAZOO, MI 49008-1631			NGUYEN, XUAN LAN T	
			ART UNIT	PAPER NUMBER
			3683	

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/808,967	Applicant(s) NIWA ET AL.	
	Examiner Lan Nguyen	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>approved drawings</u> . |

DETAILED ACTION

Drawings

1. The drawings were received on 9/12/05. These drawings are approved.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- In claims 1, 3, 5, 6, 9 and 13, the listing of various JIS is improper since it does not particularly point out and distinctly claim the subject matter. The listing is not further treated. Claims 3, 5, 6, 9 and its dependent claims 10-12, and 13 are not further treated.
- In claim 10, "NBR" needs to be spelled out. "NBR" is not further treated.
- Claim 5 repeats a portion of claim 3; is not a further limiting claim and is not further treated.
- Claim 6 repeats a portion of claim 1; and is not a further limiting claim and is not further treated.
- In claim 8, "an aluminum plate" is unclear. Does Applicant intend for "an aluminum plate" to be either said aluminum caliper or said metal backing plate?

Art Unit: 3683

The claimed feature "said aluminum alloy plate having greater heat resistance and compressive strength than an aluminum plate" is not further treated.

- Claims 9 and 13 are inherently exactly the same of one another. Since the listings are the same in both claims, the alloys in the both listings would inherently have the same exact properties.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Rath (GB 1,498,007).

Rath shows an anti-squeal shim structure, as in the present invention in figure 1, comprising: an aluminum alloy plate 2, a rubber layer 3 provided at least on one side of the aluminum alloy plate, see page 1, lines 74, 75 and lines 81-83.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rath in view of Applicant's admitted Prior Art in paragraph [0015] of the specification.

Rath shows the anti-squeal shim, as rejected in claim 1. Rath is silent of composition of the aluminum alloy. Paragraph [0015] of Applicant's specification admits the well known elements comprising in aluminum alloy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed these well known elements in the aluminum alloy as taught by the admitted prior art in Rath's anti-squeal shim structure since these alloys would be readily available for manufacturing.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rath in view of Applicant's admitted Prior Art in paragraph [0004] of the specification.

Rath shows a disc brake apparatus in figures 1 and 10, as in the present invention, comprising: a caliper 17, a disc brake portion mounted in the interior thereof as shown in figure 10, an anti-squeal shim structure as shown in figure 1, wherein said anti-squeal shim structure comprises an aluminum alloy plate 2, and a rubber layer 3, see also page 1, lines 74, 75, provided at least on one side of the metal plate, see page 1, lines 81-83. Rath is silent of a material for the caliper 17. Paragraph [0004] of Applicant's specification teaches the concept of using aluminum as a material for a caliper in a disc brake assembly in order to reduce the weight of the assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rath's disc brake apparatus to comprise an aluminum caliper as taught by Applicant's admitted Prior Art in order to reduce the weight of the disc brake

Art Unit: 3683

apparatus to improve fuel economy. Furthermore, paragraph [0018] of Applicant's specification shows that aluminum alloy inherently would have little difference in electrode potential than the aluminum caliper since both materials comprise the main ingredient aluminum.

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rath in view of Applicant's admitted Prior Art in paragraph [0004] and paragraph [0015] of the specification.

Rath shows the disc brake, as rejected in claim 2. Rath is silent of composition of the aluminum alloy. Paragraph [0015] of Applicant's specification admits the well known elements comprising in aluminum alloy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed these well known elements in the aluminum alloy as taught by the admitted prior art in Rath's anti-squeal shim structure since these alloys would be readily available for manufacturing.

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rath in view of Applicant's admitted Prior Art in paragraph [0004] of the specification.

Rath shows a disc brake apparatus in figures 1 and 10, as in the present invention, comprising: a caliper 17, a disc brake pad comprising: a friction material 21; and a metal backing plate 22, an anti-squeal shim structure as shown in figure 1 comprising: an aluminum alloy plate 2, a rubber layer 3, see also page 1, lines 74, 75, provided at least on one side of the metal plate, see page 1, lines 81-83; a piston 19 for contacting the shim structure; and a disc rotor adjacent said disc brake pad, not shown but mentioned in page 3, line 2; wherein the aluminum alloy plate of said anti-squeal

Art Unit: 3683

shim structure and said aluminum caliper have little difference in electrode potential.

Note paragraph [0018] of Applicant's specification shows that aluminum alloy inherently would have little difference in electrode potential than the aluminum caliper since both materials comprise the main ingredient aluminum. Rath is silent of a material for the caliper 17. Paragraph [0004] of Applicant's specification teaches the concept of using aluminum as a material for a caliper in a disc brake assembly in order to reduce the weight of the assembly. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Rath's disc brake apparatus to comprise an aluminum caliper as taught by Applicant's admitted Prior Art in order to reduce the weight of the disc brake apparatus to improve fuel economy.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rath in view of Applicant's admitted Prior Art in paragraph [0004] and paragraph [0015] of the specification.

Rath shows the disc brake, as rejected in claim 8. Rath is silent of composition of the aluminum alloy. Paragraph [0015] of Applicant's specification admits the well known elements comprising in aluminum alloy. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed these well known elements in the aluminum alloy as taught by the admitted prior art in Rath's anti-squeal shim structure since these alloys would be readily available for manufacturing.

Response to Arguments

12. Applicant's arguments filed 9/12/05 have been fully considered but they are not persuasive. Applicant argues that Rath does not disclose the aluminum alloys as claimed in claim 1 in order to prevent corrosion. The listing of the alloys is improper and has been rejected above. Rath broadly teaches the use of "alloys" and would have encompass an aluminum alloy. Hence the rejection is maintained. Applicant admitted that the use of aluminum for a caliper is old and well known. It is true that Rath does not teach an aluminum caliper, hence the obviousness rejection. The new 112 rejections are due to the amendments to the claims and the newly submitted claims.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 3683

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Nguyen whose telephone number is (571) 272-7121. The examiner can normally be reached on M-F, 8 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan can be reached on (571) 272-6786. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lan Nguyen
Primary Examiner
Art Unit 3683

Lan Nguyen 11/25/05



Title: ANTI-SQUEAL SHIM STRUCTURE AND A DISC
BRAKE APPARATUS COMPRISING THE SAME
Inventor(s): Takahiro NIWA, et al.
Serial No.: 10/808 967
Docket No.: 4218.P0001US

Replacement Sheet

2/2

FIG.5 (PRIOR ART)

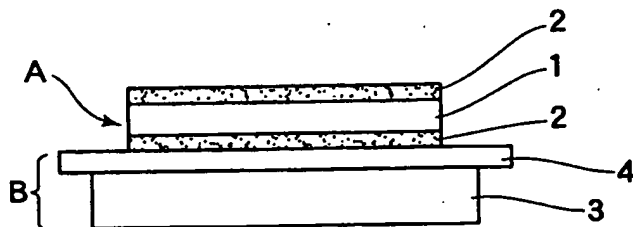
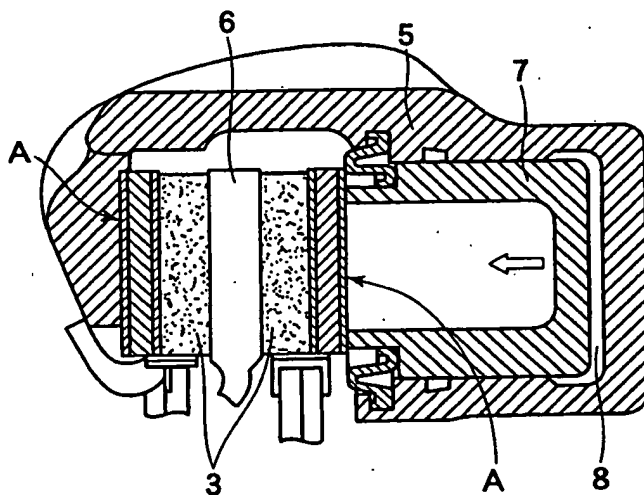


FIG.6 (PRIOR ART)



approved
XLN
11/25/05